Claims

Claims 1-30 (Canceled)

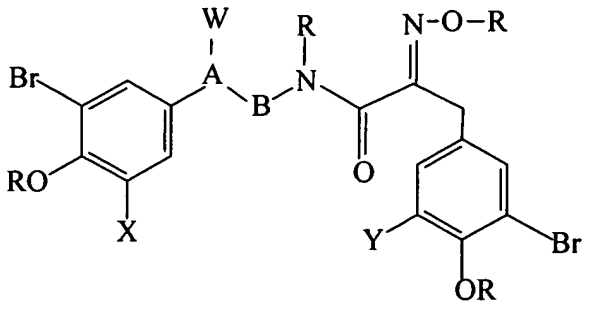
--31. (New) A method for stimulating nerve cell growth in a subject comprising administering to the subject a therapeutically effective amount of a bastadin subunit or an analog thereof that stimulates nerve cell growth.

32. (New) The method of claim 1 wherein the bastadin subunit is a bromotyrosine or an analog thereof or a bromotyrosine dimer or an analog thereof.

33. (New) The method of claim 32, wherein the bastadin subunit is a bromotyrosine dimer or an analog thereof.

34. (New) The method of claim 31, wherein the bromotryosine dimer is a hemibastadin or analog thereof.

35. (New) The method of claim 34, wherein the hemibastadin is a hemibastadin having the structure:



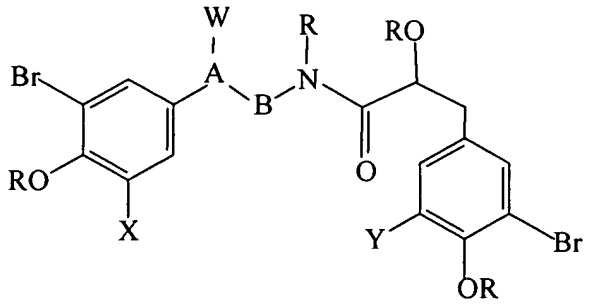
wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected

independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond..

36. (New) The method of claim 35, wherein the hemibastadin is hemibastadin 1, 2 or 3, or an analog thereof.

37. (New) The method of claim 33, wherein the bromotyrosine dimer or analog thereof is a hemibastadinol or analog thererof.

38. (New) The method of claim 37, wherein the hemibastadin is a hemibastadinol having the structure:

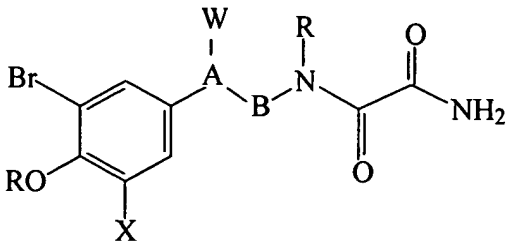


wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

39. (New) The method of claim 38, wherein the hemibastadin is hemibastadinol 1, 2 or 3, or an analog thereof.

40. (New) The method of claim 32, wherein the bastadin subunit is a bromotryosine or analog thereof.

41. (New) The method of claim 40, wherein the bromotryosine or analog thereof has the structure:



wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X is selected from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

42. (New) The method of claim 41, wherein the bastadin subunit is the 3-bromotyramine amide of oxalic acid amide.

43. (New) The method of claim 31 further comprising applying a therapeutically effective amount of heat to an area where nerve cell growth is desired, wherein the therapeutically effective amount of heat enhances nerve growth.

44. (New) The method of claim 31, further comprising providing a template in an area where nerve growth is desired, wherein the template provides a pathway along which nerve growth is desired.

45. (New) The method of claim 44, wherein the template is a tubular member that defines an anatomical pathway along which nerve growth is desired.

46. (New) The method of claim 44, wherein the template is placed between opposing ends of a transected or partially transected nerve.

47. (New) The method of claim 41 further comprising applying to the template a therapeutically effective amount of heat, wherein the therapeutically effective amount of heat

enhances nerve growth.

48. (New) The method of claim 31 further comprising administering a second neurotrophic agent other than the bastadin subunit or analog thereof.

49. (New) The method of claim 48, wherein the second neurotrophic agent is NGF, IGF-1, α-FGF, β-FGF, PDGF, BDNF, CNTF, GDNF, NT-3, NT4/5, or a mixture thereof.

50. The method of claim 48 further comprising applying a therapeutically effective amount of heat to an area where nerve cell growth is desired, wherein the therapeutically effective amount of heat enhances nerve growth.

51. The method of claim 50 further comprising providing a template in an area where nerve growth is desired, wherein the template provides a pathway along which nerve growth is desired.

52. The method of claim 48 further comprising providing a template in an area where nerve growth is desired, wherein the template provides a pathway along which nerve growth is desired.

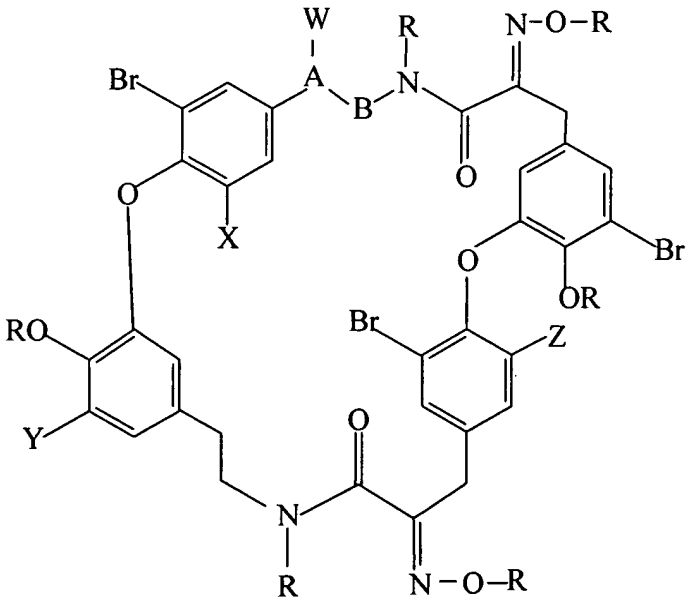
53. A pharmaceutical composition, comprising:

a bastadin or an analog thereof; and

a pharmaceutically acceptable carrier.

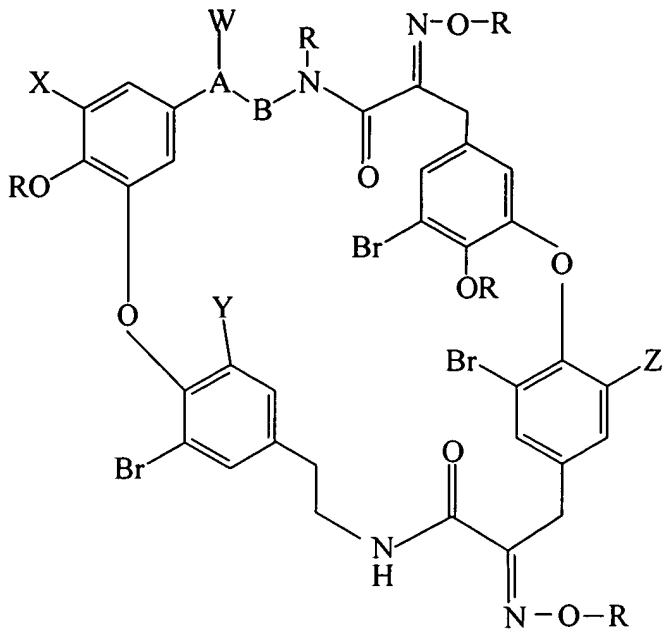
54. The pharmaceutical composition of claim 53, wherein the bastadin or analog thereof is a bastadin.

55. The pharmaceutical composition of claim 53, wherein the bastadin or analog thereof is a bastadin or its analog having the structure:



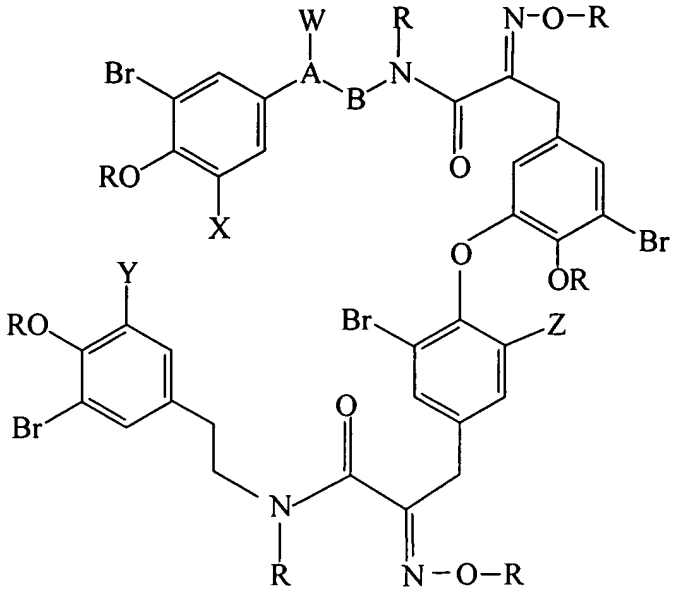
wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X, Y, and Z are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

56. The pharmaceutical composition of claim 53 wherein the bastadin or analog therof is a bastadin or its analog having the structure:



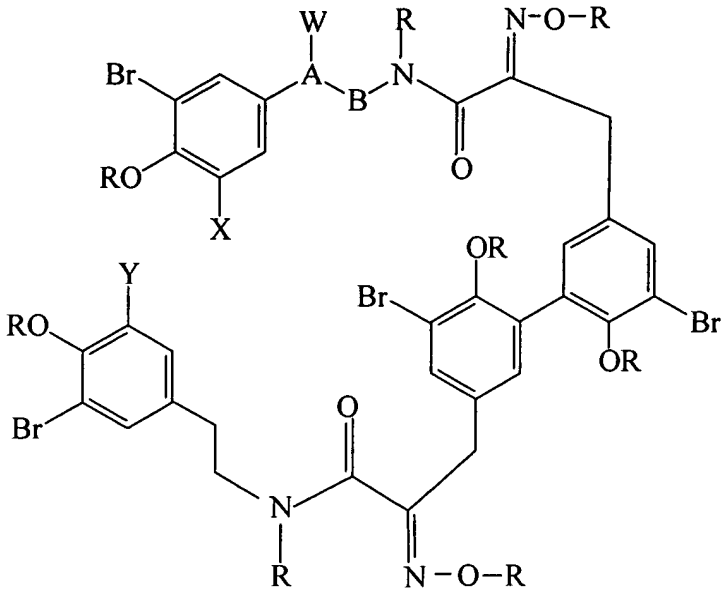
wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X, Y, and Z are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

57. The pharmaceutical composition of claim 53 wherein the bastadin or analog thereof is a bastadin or its analog having the structure:



wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X, Y, and Z are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

58. The pharmaceutical composition of claim 53, wherein the bastadin or analog thereof is a bastadin or its analog having the structure:



wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

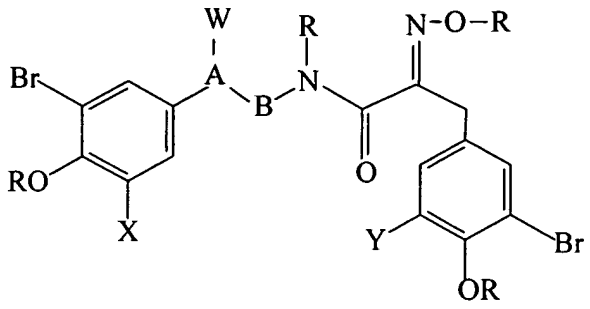
59. The pharmaceutical composition of claim 53, wherein the bastadin or analog thereof is a bastadin subunit or an analog thereof.

60. The pharmaceutical composition of claim 59, wherein the bastadin subunit or analog thereof is a bromotyrosine or an analog thereof or a bromotyrosine dimer or an analog thereof.

61. The pharmaceutical composition of claim 60, wherein the bastadin subunit is a bromotryosine dimer or an analog thereof.

62. The pharmaceutical composition of claim 61, wherein the bromotyrosine dimer or analog thereof is a hemibastadin or an analog thereof.

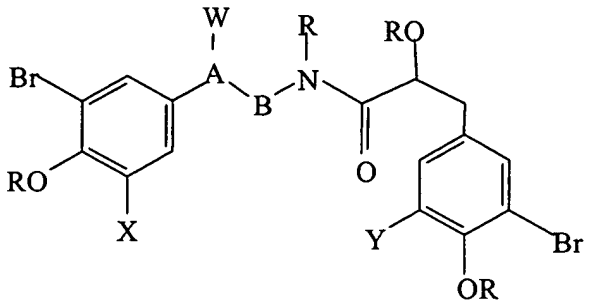
63. The pharmaceutical composition of claim 62, wherein the hemibastadin or analog thereof is a hemibastadin or its analog having the structure:



wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond..

64. The pharmaceutical composition of claim 61, wherein the bromotyrosine dimer or analog thereof is a hemibastadinol or an analog thereof.

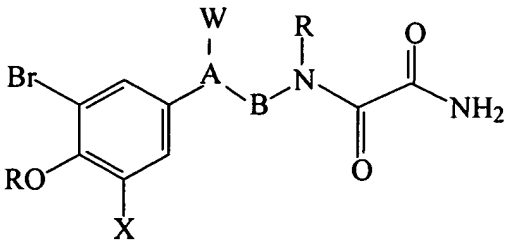
65. The pharmaceutical composition of claim 64, wherein the hemibastadinol or analog thereof is a hemibastidinaol or its analog having the structure:



wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

66. The pharmaceutical composition of claim 60, wherein the bastadin subunit or an analog thereof is a bromotryosine or an analog thereof.

67. The pharmaceutical composition of claim 66, wherein the bromotryorsine or analog thereof is a bromotyrosine or its analog having the structure:



wherein each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X is selected from the group

consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond..

68. (New) The pharmaceutical composition of claim 53 further comprising a second neutrotrophic agent other than the bastadin or an analog thereof.

69. (New) The pharmaceutical composition of claim 68, wherein the second neurotrophoic agent is NGF, IGF-1, α-FGF, β-FGF, PDGF, BDNF, CNTF, GDNF, NT-3, NT4/5, or a mixture thereof.

70. (New) A template that provides a pathway along which nerve growth is desired that is impregnated with the pharmaceutical composition of claim 53.--